

Application No.: 10/612,985

Reply to the Office Action dated: August 10, 2004

AMENDMENT TO THE DRAWINGS

The attached sheet of drawings includes new Fig. 32.

Attachment: Figure 32.

REMARKS

Applicants respectfully request reconsideration of the application, as amended, in view of the following remarks.

The present invention as set forth in **amended Claim 1** relates to a dielectric separation type semiconductor device, comprising:

a semiconductor substrate;

a primary dielectric layer disposed adjacent to a whole region of a first main surface of said semiconductor substrate;

a first conductivity type first semiconductor layer of a low impurity concentration disposed on a surface of said primary dielectric layer in opposition to said semiconductor substrate so that said primary dielectric layer is sandwiched between said first conductivity type first semiconductor layer and said semiconductor substrate;

a first conductivity type second semiconductor layer of a high impurity concentration formed selectively on the surface of said first semiconductor layer;

a second conductivity type third semiconductor layer of a high impurity concentration disposed so as to surround an outer peripheral edge of said first semiconductor layer with a distance;

a ring-like insulation film disposed so as to surround an outer peripheral edge of said third semiconductor layer;

a first main electrode disposed in contact with a surface of said second semiconductor layer;

a second main electrode disposed in contact with a surface of said third semiconductor layer;

a sheet-like back-surface electrode disposed adjacent to a second main surface of said semiconductor substrate on a side opposite to said first main surface of said semiconductor substrate; and

a first auxiliary dielectric layer disposed below said second semiconductor layer; wherein a second auxiliary dielectric layer is disposed between said first auxiliary dielectric layer and said primary dielectric layer; and

wherein said second auxiliary dielectric layer is junctioned to the semiconductor substrate and the first auxiliary dielectric layer.

In contrast, Akio (JP9-172189), Cogan (US 4,860,081) and Linn et al (US5,387,555) fail to disclose or suggest a second auxiliary dielectric layer disposed between said first auxiliary dielectric layer and said primary dielectric layer; wherein said second auxiliary dielectric layer is junctioned to the semiconductor substrate and the first auxiliary dielectric layer.

As acknowledged by the Examiner, the combination of Akio and Cogan does not disclose a second auxiliary dielectric layer being disposed between a first auxiliary dielectric layer and a primary layer. The Examiner argues that Figure 5b of Linn et al (US 5,387,555) discloses a second auxiliary nitride dielectric layer 519 being disposed between a first auxiliary dielectric layer 506 and a primary dielectric layer 513. Office Action of August 10, 2004, page 8, last paragraph. However, there is a tungsten silicide layer (515) between layers 506 and 519. Thus, there is no disclosure or suggestion of a second auxiliary dielectric layer disposed between said first auxiliary dielectric layer and said primary dielectric layer; wherein said second auxiliary dielectric layer is junctioned to the semiconductor substrate and the first auxiliary dielectric layer, as claimed in Claim 1.

Therefore, the rejection of Claims 1-4 and 7 under 35 U.S.C. § 103(a) as being unpatentable over Akio (JP9-172189) in view of Cogan (US 4,860,081) and the rejection of

Application No.: 10/612,985

Reply to the Office Action dated: August 10, 2004

Claims 5-6 under 35 U.S.C. § 103(a) as being unpatentable over Akio and Cogan and further in view of Linn et al (US5,387,555) are believed to be unsustainable as the present invention is neither anticipated nor obvious and withdrawal of these rejections is respectfully requested.

The rejection of Claims 1-7 under 35 U.S.C. § 112, 1st paragraph, is obviated by the amendment of Claim 1 and the cancellation of Claim 5.

The rejection of Claims 1-7 under 35 U.S.C. § 112, 2nd paragraph, is is obviated by the amendment of Claims 1 and 2.

The objection to the drawings is obviated by the amendment of Claim 1 and new Figure 32.

The objection to the abstract is obviated by the new abstract. A copy of the new abstract has been provided on a separate sheet, attached herewith.

Regarding non-elected Claims 8-15, Applicants note that MPEP §821.04 states, "if applicant elects claims directed to the product, and a product claim is subsequently found allowable, withdrawn process claims which depend from or otherwise include all the limitations of the allowable product claim will be rejoined." Applicants respectfully submit that should the elected group be found allowable, the non-elected claims 8-15 should be rejoined.

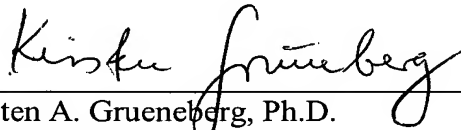
Application No.: 10/612,985

Reply to the Office Action dated: August 10, 2004

This application presents allowable subject matter, and the Examiner is kindly requested to pass it to issue. Should the Examiner have any questions regarding the claims or otherwise wish to discuss this case, he is kindly invited to contact Applicants' below-signed representative, who would be happy to provide any assistance deemed necessary in speeding this application to allowance.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,
MAIER & NEUSTADT, P.C.
Norman F. Oblon



Kirsten A. Grueneberg, Ph.D.
Registration No.: 47,297

Customer Number

22850

Tel: (703) 413-3000

Fax: (703) 413 -2220

NFO:KAG: